

Notice of Allowability

Application No.

10/686,243

Examiner

Tuan V. Thai

Applicant(s)

KOWSHIK ET AL.

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Request for Continuation filed 5/26/2006.
2. ☒ The allowed claim(s) is/are 1-4, 8, 10, 11 and 13-15 renumbered as 1-10 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 6/24/06.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

TUAN V. THAI
PRIMARY EXAMINER

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Attorney's Docket No.: ATM-279

**IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE**

In re application of: Kowshik et al. **Group:** 2186
Serial No.: 10/686,243 **Examiner:** Tuan Thai
For: **METHOD AND APPARATUS OF SMART DECODING SCHEME FOR FAST
SYNCHRONOUS READ IN A MEMORY SYSTEM.**

EXAMINER'S AMENDMENT

1. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

2. Authorization for this Examiner's Amendment was given in a telephone interview with Ms. Nissa M. Strottman; Reg. No. 52,257 on June 23, 2006.

3. The application has been amended as follows:

In the claims:

a. Please amend claims 1, 2, 8 and 10 as follows:

Claim 1. (Twice Amended) A method of synchronous reading for a

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plurality of words in a memory system, comprising:

selecting said plurality of words to be read, said selected plurality of words having a first group of words and at least one subsequent group of words;

reading said first group of words of said selected plurality of words into a plurality of data registers during a latency period; wherein said step of reading comprises determining from said selected plurality of words which said first group of words is to be read, said first group of words having a first tier and a subsequent tier; reading said first tier of said first group of words into said plurality of data registers at the beginning of said latency period; and

shifting out each word of said first group of words of said selected plurality of words synchronously at the end of said latency period, one word of the first group of words shifted out at each clock cycle following the latency period until each word of the first group of words has been shifted out.

Claim 2. (Twice Amended) The method of claim 1, wherein said step of reading further comprises the following steps:

~~[determining from said selected plurality of words which said first group of words is to be read, said first group of words having a first tier and a subsequent tier;~~

~~reading said first tier of said first group of words into~~

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~~said plurality of data registers at the beginning of said latency period;]~~

deleting said first tier of said first group of words from said plurality of data registers after said reading step during said latency period;

loading said first tier of said subsequent group of words into said plurality of data registers after said step of deleting during said latency period; and

reading said subsequent tier of said first group of words into said plurality of data registers after said step of loading during said latency period.

Claim 8. (Twice Amended) (a) *On line 9 (first sentence of the third paragraph)*, change the recitation of "a first selecting means for selecting for selecting" to read as --a first selecting means for selecting--; (b) On line 15, after the recitation of "either an even or", please add --odd--.

Claim 10. (Twice Amended) *On lines 1-2*, change the recitation of "The two-tier column decoder of claim 9," to read as --The two-tier column decoder of claim 8--.

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REASONS FOR ALLOWANCE

4. The following is an Examiner's Statement of Reasons for Allowance:

The prior arts of record do not teach nor suggest, *either alone or in combination*, **all** the limitations of the claimed invention (claims 1, 8, 11 and 14), particularly the concept of shifting out each word the first group of words of the selected plurality of word synchronously at the end of the latency period, one word of the first group of words shifted out at each clock cycle following the latency period until each word of the first group of words has been shifted out, and determining from the selected plurality of words which first group of words is to be read, the first group of words having a first tier and a subsequent tier; reading the first tier of the first group of words into the plurality of data registers at the beginning of the latency period (claim 1); in addition, the prior arts of record do not further teach a most-significant-bit decoding means for decoding most significant bit of the plurality of words to be read and determining if an address of the plurality of words is lower or a higher address, a first selecting means for selecting both even and odd addresses for a first reading during a latency period, a second selecting means for selecting either even or odd address for a subsequent reading wherein the first and second selecting means for determining if the plurality of words is

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either odd or even address (claims 8 and 14); and a burst mode operation system having a burst controller, a clock driver, a burst control and ready generator, a word counter, a burst sequence control, a word generator, and address controller, a two-tier column decoder and a row decoder in combining with all their functionalities as being claimed in claim 11.

In light of the foregoing the claims 1, 8, 11 and 14 of the present application are found to be patentable over the prior art.

Claims 2-4, 10, 13 and 15 further limit the allowable independent claims 1, 8, 11 and 14. These claims are therefore allowable for the same reason as set forth above.

Any comments considered necessary by Applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably **accompany** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan V. Thai whose telephone number is (571)-272-4187. The examiner can normally be reached on from 6:30 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew M. Kim can be

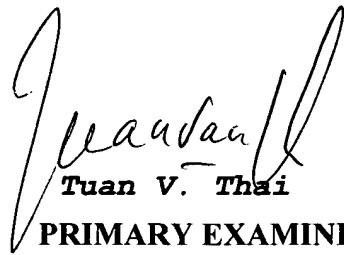
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reached on (571)-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVT/June 24, 2006


Tuan V. Thai
PRIMARY EXAMINER
Group 2100